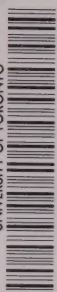


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RESEARCH REPORT.

Protocol for A study of oral health
in ontario in relation to dental manpower
and the delivery system.

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B3



PROTOCOL FOR
A STUDY OF ORAL HEALTH
IN ONTARIO IN RELATION TO
DENTAL MANPOWER AND THE
DELIVERY SYSTEM

by

D. W. BANTING

RESEARCH REPORT

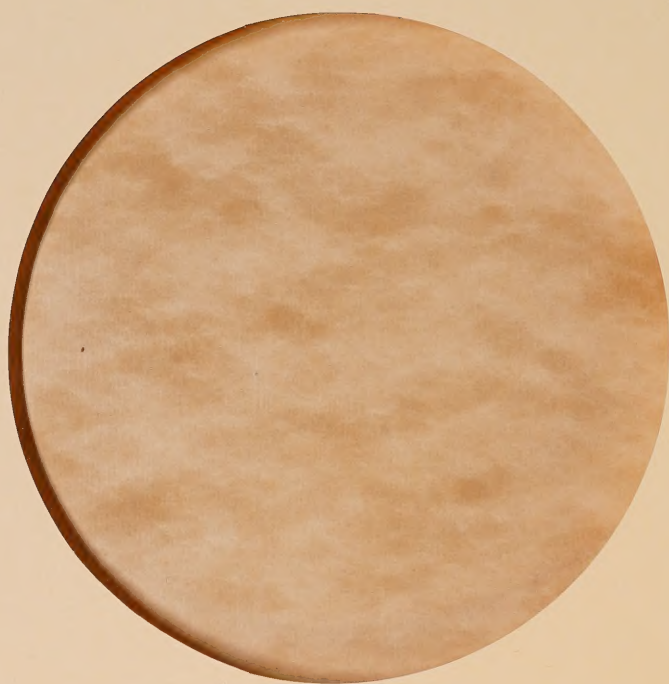
*issued by the
Dental Health Care
Services Research Unit*

RK
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B3

THE FACULTY OF DENTISTRY



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PROTOCOL FOR
A STUDY OF ORAL HEALTH
IN ONTARIO IN RELATION TO
DENTAL MANPOWER AND THE
DELIVERY SYSTEM

by

D. W. BANTING

Prepared for the
Dental Health Care Services and Epidemiology
Research Unit
Faculty of Dentistry University of Toronto
September, 1975

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demonstration model grant DM 148 of
the Ontario Ministry of Health



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1. RATIONALE

This is a protocol for a survey of the dental health of Ontario residents in relation to dental manpower and the dental delivery system. It is designed to be conducted as a dental survey alone or, if desirable, it could be altered easily to form part of a more comprehensive health survey such as the proposed Canada Health Survey. This study is also designed so that the data collected are compatible with those of the WHO/DDH International Collaborative Study of Dental Manpower Systems in Relation to Oral Health Status currently being conducted in seven other countries. By so doing, the health of Ontario residents can be compared and contrasted not only with that of other Canadians but people residing in other countries in the world which have different types and numbers of manpower, methods of payment and organization models of delivery of dental services.

It is intended that the findings of this study will aid policy decisions in the areas of dental health program planning and manpower development, training and deployment in Ontario. At present, there are no parameters of dental health or disease for most age groups in the population in Ontario. Some data are available on children ages 5 through 18. These are collected every other year from a one in seven random sample of school children by the dental public health directors in health units across the province.¹ Stamm² recently conducted a survey of the dental state of a selective sample of young adults in Toronto. Banting³ determined the dental status of a random sample of pensioners in Hamilton and Martinello and Leake⁴ examined residents of homes for the aged in London. However, these surveys are largely descriptive and no attempt was made to correlate any of the findings with the system of providing the services. There are large gaps in the age groups surveyed and no attempt was made to standardize the methods and intergroup

comparisons are difficult. The study groups cited here are not representative of the population nor do the data give any indication of what changes occur in these groups over time. For instance, what happens to the dental health of children once they leave the public school system? Information on the preschool child, where preventive dental practices should begin, is essentially non-existent.

There are also no base-line data against which the effects of trends in dentistry in Ontario such as dental insurance, operating and non-operating auxiliaries, and preventive dental programs can be measured. Similarly, the wisdom of political decisions related to dentistry such as incentive programs, dental prepayment and training of providers cannot be evaluated without a base-line to measure change.

Dental insurance is becoming an increasingly popular health benefit in union contracts. As of the end of 1974, approximately 2.5 million people in Canada were covered for dental services sponsored by 22 commercial and 2 non-profit carriers.⁵ Most of those covered for dental benefits reside in Ontario. In fact, 12 per cent of Ontario residents now have private dental insurance. Although Ontario is not committed to a universal prepayment plan for dental services at this time, most of the other provinces are (Appendix B) and the figures quoted above do not include children and senior citizens involved in government plans. In order to measure the impact of dental insurance on the dental health of the population, a base-line (preferably established before insurance has had time to significantly influence the situation) determination should be made.

The prepaid dental plans across the country are developing along many different lines relating to age group covered, personnel and payment

mechanism. It is conceivable that at some future date a uniform basic plan of dental insurance will be developed which is portable between all provinces. If this is the case, then data reporting the relationship between the various systems that have been developed and their outcome on the dental health of the subscribers will be invaluable in developing that uniform plan.

The WHO/DDH study has been designed to collect information from many different dental care systems. It has been extensively tested in several other countries not unlike Canada (eg. Australia) and has been found to serve the purpose well. For this reason, the WHO/DDH format has been closely adhered to in this proposal.

Study Design

This protocol calls for a cross-sectional survey. However, it is hoped that the survey would be repeated on a regular basis (i.e. every 5 to 10 years) thereby making it longitudinal. This would be advantageous because then changes in dental health could be observed over time. Although it would be desirable to re-examine the same individuals each time the survey is repeated, this is impractical. Cohort analysis by age groups could be employed and, if the samples are selected randomly, reasonably accurate order of magnitude estimates can be determined.

The sites of the study are to be selected purposely. The primary criteria for selection of potential study sites are based on the following:

- (a) population between 30,000 and 1,000,000;
- (b) presence or absence of communal fluoridation,
- (c) provider/consumer ratios, and
- (d) extent of dental insurance

Appendix "A" lists the study sites in Ontario which meet these

criteria. The final selection of study sites from the list of potential sites is based largely on informed judgement. Four sites in Ontario were selected (the city of Thunder Bay and Oliver and Paipooonge census subdivisions; the city of Sudbury; the city of Cornwall; the city of London) and the reasons for their selection are outlined below. All of the sites conform to the primary criteria.

Thunder Bay was selected as a study site because it is a geographically isolated area which is not fluoridated. Residents of Thunder Bay and the surrounding areas of Oliver and Paipooonge are most likely to patronize the dental providers in the city since there are few alternative sources of care. This study site not only includes a non-fluoridated city but may show the extent to which non-city residents are served by providers located in the city.

Sudbury, on the other hand, has had the benefits of fluoridated water since 1952. It is also a geographically well-defined area with a ratio of providers/consumers similar to the provincial average. Because many of the city residents are employed by one company, which has a dental insurance benefit, most people in Sudbury have insured dental services.

Cornwall has the most unfavourable dentist/population ratio of the potential study sites. The area is predominantly agricultural and the city is the major source of dental care for many people residing in the eastern townships of Ontario. Cornwall has been fluoridated since 1962. This city represents a striking contrast to the city of London.

London, which has the most favourable dentist to population ratio in the province, has been fluoridated since 1967. The population is more

homogeneous than most cities in Ontario and the Middlesex-London District Health Unit administers one of the most comprehensive programs of dental treatment in the public school system within the province.

These sites have been chosen because they have strong dental public health programs which is felt to be essential when undertaking a study of this nature.

The study will take two calendar years to complete. Data will be collected from consumers through interviews and examinations. Data will be collected from the providers and administrative groups by interviews only.

The analysis will determine the relationships between certain structural dimensions of the dental delivery system and their effects on the dental health of the consumer population.

The assumption underlying the study is that the dental health status of the population is determined by the dental service system, particularly its manpower component. A set of working hypotheses based on this assumption will be tested.

2. OBJECTIVES

The specific objectives of the study are:

- (1) to obtain information about the dental health status of the population in Ontario, including the dental services received for or because of dental disease conditions, unmet dental needs and self-perceived dental needs and actions;
- (2) to obtain information about the characteristics or mode of delivery of dental services in Ontario including manpower quantity, types, working arrangements, payment mechanisms, and central administrative control;

- (3) to define and analyze the relationships between the major features of the dental health of the consumers, the characteristics of the providers and the overall efficacy (effectiveness and efficiency) of the dental health care system in Ontario;
- (4) to provide a mechanism and base-line for monitoring the effect on dental health status of Ontario residents of a developing system of delivery of dental services in Ontario;
- (5) to identify the differences in dental health status of consumers of dental health services in Ontario with others in Canada and with those of several countries which have differences in manpower, payment and administration of dental services.

To achieve these objectives, a set of hypotheses is proposed for testing with the general hypothesis that within a dental care system and across such systems, given control of certain variables, the more preventive oriented, centrally controlled, available, accessible and acceptable the dental care provided, the more positive is the effect on that population's dental health.

Preventive Oriented

- (a) *Given comparable manpower/population ratios, residents of centrally fluoridated communities have better dental health than residents of fluoride deficient communities.*
- (b) *The greater the provider time spent on preventive services, the greater the beneficial effect to the consumer.*

Central Control

- (a) *The greater the control on quality and quantity of provider services, the greater the beneficial effect to the consumer.*

Availability

- (a) *The greater the number of dentists and/or other operating dental personnel, the greater the beneficial effect to the consumer.*
- (b) *The greater the number of supporting personnel to operating dental manpower, the greater the beneficial effect to the consumer.*

Accessibility

- (a) *The greater the physical (distance, transportation availability, time) ease of contact between consumer and provider, the greater the beneficial effect to the consumer.*
- (b) *The less direct payment for services made between consumer and provider, the greater the beneficial effect to the consumer.*
- (c) *The more incentives are given to the provider, the greater the beneficial effect to the consumer.*
- (d) *The more providers exert initiative in delivering services, the greater the beneficial effect to the consumer.*

Acceptability

- (a) *The greater the acceptability of a service to the provider and dental health administration, the greater the beneficial effect to the consumer.*
- (b) *The greater the acceptability of a service to a population, the greater the beneficial effect to the consumer.*

3. RESEARCH DESIGN

The primary focus of attention would be on the collection of information from interviews and examinations. Data will be collected from samples of consumers of dental services and providers of dental services as well as all professional and governmental organizations related to the delivery of dental services.

The target consumer populations will be the civilian, non-institutionalized persons of the selected age groups residing in the sites selected. The target provider population will be the full-time private dental practitioners practising in the same areas selected for the consumer samples. The administrative organizations will include the Royal College of Dental Surgeons of Ontario, the Ontario Dental Association, the Ontario Ministries of Health and Social and Family Services and the Federal Department of Health and Welfare.

For each study site selected, a multistage area probability sampling design will be used in the selection of the consumer samples. The study site will be stratified into its census tracts. Then, that proportion of the total sample will be selected from each of the census tracts as is formed by the proportion of the target age persons in the study site to the total number of persons that age in the study site. The total sample of consumers selected for each age group in each study site will vary according to the proportion of that age group to the total population of the site. A maximum of 600 consumers for each age group for all study sites combined will be selected. In other words, while the sample will be stratified according to census tracts, it will remain self-weighting. The age groups to be sampled are 3-4, 8-9, 13-14, 24-25, 34-35, 44-45, and 64-65. In the case of school children, the school lists will constitute the sampling frame and the children will be randomly selected. These children will only be given an examination and not an interview. The examination will be conducted in the school.

In the case of the other consumer groups aged 3-4, 24-25, 34-35, 44-45, and 64-65, individuals will be randomly selected from households which will be chosen on a probability basis from blocks within the census tracts. In the rural areas, rural route lists will provide the sampling frame. The adults will be interviewed in their home. At that time an appointment will be made for a clinical examination which will take place at one or more locations in the city.

For each study site selected, all of the providers will be interviewed to a maximum of 100 providers. Where the number of providers exceeds 100, the providers will be stratified according to census tracts and chosen

on a probability basis from the census tracts. The sampling frame will be the yellow pages of the telephone book.

The professional and governmental organizations will be selectively chosen and visited by an examiner who will complete a focused open-ended questionnaire.

4. DATA COLLECTION

The method and instruments involved in the collection of the data will differ according to the group under investigation. Every effort will be made to collect data in a form compatible with the WHO/DDH collaborative study.

Data will be collected from the child consumer samples by examination only and from the adult consumer samples by means of both a personal interview and a dental examination. The dental examinations will be conducted by the dental public health directors in each city and will take place in the school dental clinics where they exist or else in a centralized facility. The examiners will have been calibrated by a senior dental epidemiologist who in turn will have been calibrated by one of the roving epidemiologists at W.H.O. These procedures will insure that the standards of the W.H.O. study are maintained in this study. The adult interviews will be conducted in the respondent's home by trained interviewers using a highly structured interview schedule.

A focused open-ended questionnaire will be used for the administrative organizations.

Data will be collected from the dental providers by means of a personal interview and a day audit. The personal interview will make use of a structured interview schedule. The day audit will be completed by the dentist's secretary in collaboration with the interviewer and will summarize the activities which took place in that office that day. Appointments will be made beforehand in an attempt to arrange convenient times for the providers.

5. DATA PROCESSING AND ANALYSIS

Returned questionnaires and examinations will be audited for completeness. Responses will be converted to numerical codes and transferred to code sheets. The codes on the sheets will be transferred to punched cards, verified and corrected if necessary. One file will be made for each of the samples.

Both within system and between system analyses will be performed separately for each sample. The within system analysis would consist of frequency distributions of variables for descriptive purposes and testing of the specific hypotheses. The between system analysis, if considered advantageous, would consist of a series of rank order comparisons of dependent and independent variables across the various study areas.

6. ORGANIZATIONAL FRAMEWORK

A project director should be hired on a full-time basis. It will be his or her responsibility to plan, implement and report on the survey, handle the financial arrangements, hire and supervise the staff and generally be the person in charge of the study. If possible, this person should be a dentist, preferably with training in epidemiology, with the ability to communicate effectively with government, public health directors and the

profession. A sociologist could also function well in the capacity of project director.

A full-time secretary will be required to assist the director. Office space will have to be provided for the central offices of the study. The most likely place would be in one or other of the two dental schools or else in the Ministry of Health.

Research assistantships should be made available to graduate students to assist with certain aspects of the study. For instance, a graduate student in dental care administration could function as the interviewer for the organization sample. This person would have some knowledge of the organizations as well as an interest in the project. The completed written report could serve as a thesis project.

Dental hygienists or dental assistants from the public health units in each city could function as recorders.

The provider questionnaires would be better received if they were administered by the R.C.D.S. in conjunction with the O.D.A. This would necessitate seconding a representative of the R.C.D.S. to administer or oversee the administration of the provider questionnaires.

7. TIMETABLE

It is estimated that the project will take two years to complete but, depending on the co-operation received from the various groups involved, this time could be reduced considerably. A tentative schedule is as follows:

TIMETABLE

APRIL to AUGUST	-	Planning and organization of study Preparation and printing of forms.
SEPTEMBER to DECEMBER	-	Recruitment of personnel Training and calibration of examiners Training and calibration of interviewers Pre-test surveys.
JANUARY to MARCH	-	Data collection for provider and administrative samples.
APRIL to JUNE	-	Data collection for consumer groups.
JULY to SEPTEMBER	-	Holidays Data processing.
OCTOBER to DECEMBER	-	Data analysis.
JANUARY to MARCH	-	Completed report.

BUDGET

	<u>1st YEAR</u>	<u>2nd YEAR</u>
<u>Salaries</u>		
Project Director (full-time)	\$ 30,000	\$ 34,350
Secretary (full-time)	9,000	10,350
<u>Fringe Benefits</u>		
10% of Salaries	3,900	4,470
<u>Honoraria</u>		
Interviewers \$5/hr. x 400 pretest hours	2,000	
\$5/hr. x 4,000 study hours		20,000
Examiners \$25/hr. x 100 pretest hours	2,500	
\$25/hr. x 1,000 study hours		25,000
Recording Clerks \$5/hr. x 100 pretest hours	500	
\$5/hr. x 1,000 study hours		5,000
Roving Epidemiologist (part-time)		5,000
<u>Consultant Fees</u>		
Sociologist (part-time)	2,000	
Consultant in Health Care Administration (part-time)	2,000	
Sampling Specialist (part-time)	2,000	
<u>Travel</u>		
Domestic (site visits; travel allowance)	1,000	5,000
Foreign (WHO and Baltimore projects)	2,000	500
Transportation of subjects to clinics	800	8,000
Presentation of scientific papers		1,000
<u>Data Processing</u>		
Keypunching and verifying	200	500
Data analysis	700	1,800
<u>Other</u>		
Paper and office supplies	900	300
Printing, duplicating, publishing	2,500	500
Rental of equipment (office and dental)	1,000	3,000
TOTAL DIRECT COSTS	<u>\$ 63,000</u>	<u>\$124,770</u>

APPENDIX "A"

CHARACTERISTICS OF POTENTIAL STUDY SITES

	Population ¹	Communal ² Fl.	Large Amount ³ of Dental Insurance	# DDS ⁴	DDS/Pop.	School Treatment Program
Belleville	35,130	1965	No	22	1:1,597	No
Brampton	41,210	No	No	26	1:1,585	No
Brantford	64,460	1945	No	23	1:2,803	No
Burlington	87,025	1961	No	47	1:1,852	No
Chatham	35,315	No	No	17	1:2,077	No
Cornwall	47,115	1962	No	14	1:3,365	No
Galt	38,900	No	No	14	1:2,779	No
Guelph	60,085	No	No	30	1:2,003	No
Hamilton (C)	309,170	1967-71	Yes	151	1:2,047	Yes
(CMA)	498,525				1:3,301	
Kingston	59,045	No	No	41	1:1,440	No
Kitchener (C)	111,805	No	No	68	1:1,644	No
(CMA)	226,845				1:3,336	
London (C)	223,220	1967	No	163	1:1,369	Yes
(CMA)	286,015				1:1,755	
Markham	36,685	No	No	8	1:4,586	No
Mississauga	156,070	1961-70	No	74	1:2,109	No
Niagara Falls	67,165	No	No	31	1:2,167	No
North Bay	49,190	1962	No	24	1:2,050	No
Oakville	61,480	1963	Yes	32	1:1,921	No
Oshawa	91,590	1953	Yes	42	1:2,181	No
Ottawa (C)	302,340	1967	No	240	1:1,260	Yes
(CMA)	453,280				1:1,889	
Peterborough	58,110	No	No	43	1:1,351	No
Richmond Hill	32,380	No	No	17	1:1,905	No
St. Catharines (C)	109,725	No	No	53	1:2,070	No
- Niagara (C)	67,165				1:1,267	No
(CMA)	303,430				1:5,725	
Sarnia	57,645	1971	Yes	31	1:1,859	No
Sault Ste Marie	80,330	No	Yes	26	1:3,090	No
Sudbury (C)	90,535	1952	Yes	37	1:2,447	No
(CMA)	155,425				1:4,201	

		<u>Population</u> ¹	<u>Communal</u> ² <u>Fl.</u>	<u>Large Amount</u> ³ <u>of Dental</u> <u>Insurance</u>	<u># DDS</u> ⁴	<u>DDS/Pop.</u>	<u>School</u> <u>Treatment</u> <u>Program</u>
Thunder Bay	(C)	108,410	No	No	56	1:1,936	No
	(CMA)	112,090				1:2,002	
Waterloo		36,680	1967	No	20	1:1,834	No
Welland		44,395	1963	No	17	1:2,611	No
Windsor	(C)	203,300	1969	No	84	1:2,420	No
	(CMA)	258,645				1:3,079	

1. Canada Census, Catalogue 92-756, September 1972.

2. C.D.A., Fluoridation in Canada as of December 31, 1972

3. personal communication, Dr. R. L. Ellis, University of Toronto

4. Royal College of Dental Surgeons, Membership List, July 1974.

APPENDIX "B"

COMPARISON OF PROVINCIAL DENTAL CARE PLANS FOR CHILDREN IN CANADA

Only - Dentistry only - currently being re-evaluated

PROVINCES	COMMENTS	DATE STARTED (OR TO START)	AGES OR GROUPS COVERED (TO BE COVERED)	PROPOSED FINAL AGE COVERAGE	PHASE-IN SYSTEM
NEWFOUNDLAND	Problems of insufficient and maldistributed manpower apparent	1971	up to 11 years	up to 16 years	?
PRINCE EDWARD ISLAND	Preceded by research dental auxiliary study. Annual registration fee: \$1.50	1971	1974 - 4 to 9 yrs.	3 to 18 years by 1981	3 yr. olds and one addition a yr. ea. year after 1975
NOVA SCOTIA	Manpower problems, but restricted age may allow adequate coverage	July 1, 1974	children born on or after Jan. 1, 1967 (age 7 and under)	?	?
NEW BRUNSWICK	1974 - clinics started for primary school children in underserved areas	1974	primary school children	?	?
QUEBEC	-Poor manpower distribution -few clinic outlets -low utilization expected -finances inadequate	May 1, 1974	7 years and under	?	?
ONTARIO	Models for dental care under study. Some municipal programmes available	-	-	-	-
MANITOBA	Preventive programme proposed to precede full-scale children's dental care	Announced for Fall 1974 - Start delayed	up to 12 years	up to 16 years	1974-18000 eligible 1978-12000 eligible (up to age 16)
SASKATCHEWAN	Oxbow study preceded new plan which uses clinics and operative auxiliary teams	Sept. 1, 1974	6 year olds	3-12 years	1974 - 6 years 1975 - 5-7 " 1976 - 3-8 " 1977 - 3-10 " 1978 - 3-12 "
ALBERTA	Dental care for persons over 65 and dependents began August 1973 - 150000 eligible cost - 3.5 million (est.)	-	-	-	-
BRITISH COLUMBIA	"Children's dental health research project" group is studying various methods of dental care delivery	-	-	-	-
NORTH WEST TERRITORIES & YUKON	Children's plan staffed by dental nurses trained at Fort Smith, N.W.T.	N.W.T. ? Yukon 1970	Yukon children up to grade 6	-	?

MS - Dentist
 DN - Dental Nurse
 EDH - Expanded Duty
 Dental Hygienist
 EDDA - Expanded Duty
 Dental Assistant
 ? - uncertain
 - - not applicable

	UTILIZATION ACTUAL (A) FORECAST (F)	PRIMARY CARE PERSONNEL	PRIMARY CARE SITES	PROCEDURES COVERED (GENERAL)	PROCEDURES COVERED (SPECIALIST)
NEWFOUNDLAND	?	D.D.S.	Private practice	Prevention Basic dental procedures	Minor prosthetic & orthodontic work
PRINCE EDWARD ISLAND	(A) 1972-73 School age - 85% Preschool age - 70% & 5% in private practice offices	Team- 1 D.D.S. 2 E.D.D.H. 2 E.D.D.A. 1 receptionist	Clinics- 3 mobile } 2 fixed } 80% 6 private DDS } 20%	Prevention Basic dental procedures	Removable orthodontic appliance therapy
NOVA SCOTIA	(F) 5-10% increase over present rates	D.D.S. 10 - salaried other - private practice	Clinics- mobile Private practice D.D.S.	Prevention Basic procedures excludes sealants, mouth guards, broken appts.	Interceptive orthodontics - Ortho Specialist for spec. service - cleft palate
NEW BRUNSWICK	?	Team - D.D.S. E.D.D.H. E.D.D.A.	Clinics- 2 mobile number to be increased yearly	?	?
QUEBEC	(F) 27.4% of age groups covered. 10% in rural areas >40% in Montreal	D.D.S.	Private practice	Broad coverage in- cludes \$10.00 fee every 180 days -oral hyg. instruct.	Topical Fluorides- NOT prophylactic with FI paste
ONTARIO	-	-	-	-	-
MANITOBA	?	Public Health Team -Prevention - DDS pri- vate for emergency treatment D.N. E.D.D.A. Referral to D.D.S.	Public health clinics Private offices for emergencies Clinics fixed and mobile to serve 50 mile areas	Oral hyg. instr.-broad preventive programme -Emergency dental treatment Screened by D.D.S. Broad coverage -possible referral to D.D.S.	-
SASKATCHEWAN	(F) 3-5 years 90% 6-12 " 95% (190,000 per year in 5th year)	-	-	-	-
ALBERTA	-	-	-	-	-
BRITISH COLUMBIA	-	-	-	-	-
NORTH WEST TERRITORIES & YUKON	?	D.N. D.D.S.	?	Yukon - Examinations, prophylaxis, topical fluorides, simple fillings, extractions	?

Draft only page 1/2
 Summary

D.D.S. - Dentist
 ffs-fee for service
 ? - uncertain
 - not applicable

*Diff. only being
 research*

FREQUENCY
OF PREVENTIVE
AND DIAGNOSTIC
PROCEDURESPROGRAMME
INTEGRATION
P.H. PREVENTION
MEDICAREPAYMENT
- FEE FOR SERVICE
- SALARYPROGRAMME
FUNDINGPROGRAMME
EVALUATION AND
QUALITY CONTROL

RESEARCH

NEWFOUNDLAND

?

?

ffs
 90% of 1971
 Prov. fee schedule

General
 revenues

?

?

PRINCE EDWARD
ISLAND

As needed

Public Health
 Prevention
 Medicare?

Salary
 ffs?

Registration
 fee \$1.50
 Gen. revenues

Yes-
 Government

?

NOVA SCOTIA

As needed

Public Health
 Prevention
 Medicare

ffs-85% of 1973
 Prov. schedule
 Extra billing-prior
 approval bills over
 \$100.00 - Salary

General
 revenues

Some monitoring
 as with medical
 care services

Dentists'
 Attitudes
 by Dr. McLeod

NEW BRUNSWICK

?

?

Salary

?

?

QUEBEC

Complete
 examination- then
 partial exam.
 every 6 months

Medicare

ffs for
 D.D.S. Services
 only. 100% of
 agreed fee schedule

9.5 Million
 dollars from
 general revenues

?

?

ONTARIO

-

-

-

-

Manpower and
 cost studies

MANITOBA

?

Public Health
 Prevention

1978-79 estimate
 2.1 million
 dollars from
 general revenues

?

?

SASKATCHEWAN

Every 6 months

Public Health
 Prevention
 Medicare?

ffs- or contract
 for D.D.S. referral
 Salary - public
 health teams

Entirely from
 general revenues
 9.5 million
 dollars or
 \$30.-\$36 per
 child

Audits: Supervision
 of dental nurses
 in 1:9 ratio by
 regional consultants
 Epidemiological
 evaluations of
 programme effective-
 ness

-

ALBERTA

-

-

-

-

-

BRITISH COLUMBIA

-

-

-

-

Much research
 incl. program
 simulation

NORTH WEST
TERRITORIES &
YUKON

?

?

?

?

?

?

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2. Stamm, J., "Dental Caries in 506 Young Ontario Adults", Journal of the Canadian Dental Association, 39:338-341, May 1973.
3. Banting, D., "A Study of Dental Care Cost, Time and Treatment Requirements of Older Persons in the Community", Canadian Journal of Public Health, 63:508-514, November-December 1972.
4. Martinello, B.P. and Leake, J.L., "Oral Health Status in Three London, Ontario Homes for the Aged", Journal of the Canadian Dental Association, 37:429-432, November 1971.
5. Globe and Mail, May 20, 1975, p. B.1.

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